UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,568	10/31/2003	Lawrence W. Osterman	MS306051.1/MSFTP506US	1108

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AMIN. TUROCY & CALVIN, LLP
24TH FLOOR, NATIONAL CITY CENTER
1900 EAST NINTH STREET
CLEVELAND, OH 44114

EXAMINER
PHAN, TUANKHANH D

ART UNIT	PAPER NUMBER
2153	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

Office Action Summary	Application No.	Applicant(s)
	10/698,568	OSTERMAN, LAWRENCE W.
	Examiner	Art Unit	
	TuanKhanh Phan	2153	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>14 June 2007</u>.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-36</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-36</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>31 October 2003</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

This action is responsive to the Response filed June 14, 2007. Claims 1-36 are pending.

Applicant's argument to objections to drawings has been fully considered. The objection has been withdrawn.

Applicant's amendment to claim 6 has been fully considered. The objection to claim 6 has been withdrawn.

Response to Arguments

Applicant's arguments file June 14, 2007 have been fully considered, but they are not persuasive.

Issue no. 1: Applicant argues that Jeong et al do not teach transmitting a multicast-type message in unicast to the object. Response: Jeong et al. do teach **both** transmitting a multicast-type message in **unicast** and **multicast** (abstract; p. 1765, col. 2, para 2; p. 1766: col. 1, para 2, lines 1-6, col. 2 para 4; p. 1767, col. 2, para 1, lines 3-7) to the object more than once throughout the reference. During the telephonic interview, the Examiner also has pointed out such teachings. Therefore, applicant's arguments are not persuasive.

Issue no. 2: Applicant argues that Bhatti is silent with respect to transmitting a multicast-type message in unicast to the object. Response: Bhatti teaches device discovery and service type descriptions delivery using multicast or unicast (p. 2, para 0029, lines 1-12). Thus, one of ordinary skill in the art would incorporate the teaching of Bhatti into the teaching by Jeong et al. to

enhance the effectiveness of nodes discovery and collaboration in a network.

Applicant's arguments are not persuasive.

Issue no. 3: Applicant argues again that Jeong et al. fails to teach

transmitting a multicast-type message in unicast to the object with the references

of Shrinivasan et al. (US 2002/0174237), and Devine et al. (US 2002/0095399)

Response: the Examiner has pointed out in the discussion of issue no. 1 above.

It is inherent in the art that network transfer protocols using TCP/IP includes

HTTP, NetBUI and XML with a hierarchy order. Applicant's arguments are not

persuasive, thus the rejections are sustained.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102(a) that form the basis for the rejections under this section made in

this Office action:

> A person shall be entitled to a patent unless the invention was known or used by
> others in this country, or patented or described in a printed publication in this or a
> foreign country, before the invention thereof by the applicant for a patent.

Claims 1-10, 12-20, 22, 25-30, 32-34, and 36 are rejected under 35

U.S.C. 102(a) as being anticipated by Jeong et al. ("Service Discovery Based on

Multicast DNS in Ipv8 Mobile Ad-hoc Networks"), hereinafter referred to as

"Jeong et al."

Regarding claim 1, Jeong el al. disclose a system that detects presence of

an object (p. 1763, col. 2, ¶ 2, lines 1-5, "node"), comprising: a transmit

component that sends a multicast-type query as a unicast query to the object (p.

1763, col. 2, ¶ 2, lines 7-15 "LLMNR_TIMEOUT"), the object having a timeout

period associated therewith (p. 1763, col. 2, ¶ 2, lines 10-15 "limited amount of

time"); and a presence component that monitors a response to the unicast

message (p. 1763, col. 2, ¶ 2, lines 1-6 "LLMNR"), and if a response is not

received, the object is not inactive (p. 1763, col. 2, ¶ 2, lines 10-16 sending

ignore responses).

Regarding claim 2, see the disclosures of Jeong et al. as discussed in

claim 1 above. Jeong et al. disclose the object is at least one of a wired device a

wireless device, and a service (p. 1763, col. 1, ¶ 4, lines 1-5 "ANS").

Regarding claim 3, Jeong et al. disclose the system of claim 1 above, and

the multicast-type query is transmitted in unicast at least once before timeout

expires (p. 1763, col. 2, ¶ 2, lines 10-15, retransmitting by 3 times).

Regarding claim 4, Jeong et al. disclose the system of claim 1 above, a

plurality of multicast-type queries are transmitted in unicast to the object to

control the object (p. 1765, col. 2, ¶ 1, multicast or unicast service).

Regarding claim 5, Jeong et al. disclose the system of claims 1 and 4

above, the plurality of multicast-type queries signal the object to stay connected

(p. 1763, col. 2, ¶ 2).

Regarding claim 6, Jeong et al. disclose the system of claim 1, at least

one of the transmit component and the presence component (p. 1763, col. 2, ¶ 2)

is part of client application that transmits the multicast-type query in unicast and

receives the response in unicast from the object (p. 1763, col. 2, ¶ 2).

Regarding claim 7, Jeong et al. disclose the system of claim 1; the object

is disposed on a network remote from the transmitted and presence components

(Figure 1; p. 1763, col. 2, ¶ 2).

Regarding claim 8, Jeong et al. disclose the system of claim 1; the

unicast response is stored at the system-end (p. 1763, col. 2, ¶ 2).

Regarding claim 9, Jeong et al. disclose the system of claim 1, the

multicast-type query is directed to at least one of the object[s] (p. 1763, col. 2, ¶

2, lines 2-6), an embedded device of the object (p. 1763, col. 2, ¶ 2, lines 1-6).

Regarding claim 10, Jeong et al. disclose the system of claim 1, the

multicast-type query is sent a predetermined number of times before the object is

determined to be off-line (p. 1763, col. 2, ¶ 2; [e.g.: 3 times]).

Regarding claim 12, Jeong et al. disclose the system of claim 1, the

transmit component transmits a plurality of unique multicast-type query in unicast

to respective plurality of the objects (p. 1763, col. 2, ¶ 1 & ¶ 2).

Regarding claim 13, Jeong et al. disclose the system of claim 1, the

transmit component transmits a first multicast-type query in unicast to an

intermediate device to determine its status before transmitting the multicast-type

query in unicast to the object (p. 1763, col. 2, ¶ 1 & ¶ 2; p. 1764, col. 1, ¶ 1; p.

1766, col. 1).

Regarding claim 14, Jeong et al. disclose the system of claim 1, the

multicast-type query is transmitted in unicast to the object from a first client

application (p. 1763, col. 2, ¶ 1 & ¶ 2), the response to which indicates a status of

the object (p. 1763, col. 2, ¶ 1 & ¶ 2), and the status of which is announced by

the first client application to a second client application (p. 1763, col. 2, ¶ 1 & ¶ 2; p. 1766, col. 1; Figure 11).

Regarding claims 15 and 16, Jeong et al. disclose the system of claim 1 having a computer system and computer readable medium storing and carrying out computer executable instructions (p. 1763, col. 1 & 2, ¶ 2; p. 1767, col. 2, ¶ 1 & 2).

Regarding claim 17, Jeong et al. teach a system that discovers presence of an object (p. 1763, col. 2, ¶ 2), comprising: a client application that seeks status of the object; (p. 1763, col. 2, ¶ 2; p. 1766, col. 1) and a discovery component associated with the client application that facilitates discovery of the object via a discovery protocol (p. 1763, col. 2, ¶ 1 & ¶ 2; p. 1766, col. 1), the protocol comprising: transmitting a multicast-type message as a unicast message to the object (p. 1763, col. 2, ¶ 2), the object having a timeout period associated therewith (p. 1763, col. 2, ¶ 2); and checking for receipt of a response from the object to determine the status thereof (p. 1763, col. 2, ¶ 1 & ¶ 2; p. 1766, col. 1).

Regarding claim 18, Jeong et al. teach the system of claim 17, the client application signals the discovery component to initiate discovery of the object by transmitting the multicast-type message in unicast to the object (p. 1763, col. 2, ¶ 2).

Regarding claim 19, Jeong et al. teach the system of claim 17, the discovery component is part of the client application (p. 1763, col. 2, ¶ 1 & ¶ 2; p. 1766, col. 1; Figure 11).

Regarding claim 20, Jeong et al. teach the system of claim 17, the client application is a master browser seeking the status of a plurality of other browsers (p. 1763, col. 2, ¶ 1 & ¶ 2; p. 1766, col. 1; Figures 11 & 12).

Regarding claim 22, Jeong et al. teach the system of claim 17, the discovery protocol using a network protocol (p. 1763, col. 1 & 2; p. 1767, col. 2).

Regarding claim 25, Jeong et al. teach the system of claim 17, wherein receipt of a response in unicast indicate that the object is on-line and non-receipt of a response indicates that the object is off-line (p. 1763, col. 2, ¶ 2).

Regarding claim 26, Jeong et al. teach a method of determining the presence of an object on a network comprising: transmitting a multicast-type message in unicast to the object on demand (p. 1763, col. 2, ¶ 2; p. 1766, col. 1); checking for receipt of a response from the object to determine the status of the object (p. 1763, col. 2, ¶ 2); and determining the status of the object based upon receipt or non-receipt of the response (p. 1763, col. 2, ¶ 2).

Regarding claim 27, Jeong et al. teach the method of claim 26, further comprising delaying determination of the status of the object until a predetermined number of additional multicast-type messages have been transmitted to the object in unicast (p. 1763, col. 2, ¶ 2).

Regarding claim 28, Jeong et al. teach the method of claim 26, further comprising initiating discovery of an intermediary object in response to determining initially that the object is off-line (p. 1763, col. 1 & 2; p. 1767, col. 2).

Regarding claim 29, Jeong et al. teach the method of claim 26, further comprising automatically initiating discovery of a redundant object in response to determining that the object is off-line (p. 1763, col. 1 & 2; p. 1767, col. 2).

Regarding claim 30, Jeong et al. teach the method of claim 26; the object is one of a plurality of interdependent objects such that failure of the object results in failure of the remaining plurality of interdependent objects (Figures 9, 11, 12; p. 1764, col. 1; p. 1766, col. 1).

Regarding claim 32, Jeong et al. teach the method of claim 26, further comprising signaling the object to stay on-line using at least two of the multicast-type messages sent in unicast to the object (Figure 11; p. 1763, col. 2, p. 1765).

Regarding claim 33, Jeong et al. teach a system that determines the presence of an object on a network (p. 1763, col. 1&2; p. 1766, col. 2), means for monitoring a timeout associated with the object (p. 1763, col. 1&2; p. 1766, col. 2); means for transmitting a multicast-type message in unicast to the object on demand before the timeout expires (p. 1763, col. 1&2; p. 1766, col. 2); means for checking for receipt of a response from the object to determine the status of the object (p. 1763, col. 1&2; p. 1766, col. 2); and means for determining the status of the object based upon receipt or non- receipt of the response (p. 1763, col. 1&2; p. 1766, col. 2).

Regarding claim 34, Jeong et al. teach a system of claim 33, further comprising means for caching the status of the object for access by a client application (p. 1763, col. 2; p. 1765 col. 1).

Regarding claim 36, Jeong et al. teach a computer-readable medium (p.

1763; p. 1765; p. 1766 [network, server, base station]) having computer-

executable instructions for performing a method for determining the presence of

an object on a network (p. 1763, col. 2, ¶ 2), the method comprising: transmitting

a multicast-type message in unicast to the object on demand (p. 1763; p. 1765;

p. 1766); checking for receipt of a response from the object to determine the

status of the object (p. 1763, col. 2); and determining the status of the object

based upon receipt or non-receipt of the response (p. 1763, col. 2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed
> or described as set forth in section 102 of this title, if the differences between the
> subject matter sought to be patented and the prior art are such that the subject
> matter as a whole would have been obvious at the time the invention was made
> to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was
> made.

Claims 11 and 21 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Jeong et al. as applied to claims 1 and 17 above, and further

in view of Bhatti (US Pub. No. 2003/0140344 A1).

Regarding claim 11, Jeong et al. lack, from claim 11 above, of the object is

compatible with a plug-and-play architecture. Bhatti, in the same field of

endeavor of device discovery protocol, teaches a Universal Plug-and-Play

(UPnP) architecture that is compatible with network interfaces (abstract; ¶ 29;

Figure 4).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to incorporate the teaching of Bhatti into the disclosures by

Jeong et al. to enhance the effectiveness of nodes collaboration in a network for

device discovery protocols.

Regarding claim 21, Jeong et al. lack of, from claim 17 above, the

discovery protocol is based upon UPnP architecture that uses at least one of a

simple service discovery protocol and a general event notification architecture

protocol. Bhatti teaches node recognition includes UPnP architecture (abstract;

¶ 29; Figure 4).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to incorporate the teaching of Bhatti into the disclosures by

Jeong et al. to have the system to be more interoperable in a network

environment since UPnP capabilities are provided by pre-existing network

protocols and standards such as IP.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Jeong et al. as applied to claims 17 and 22 above, and further in view of

Shrinivasan et al. (U.S. Pub. No. 2002/0174237).

Regarding claim 23, while Jeong et al. disclose claims 17 and 22 as

discussed above comprises at least TCP/IP and UDP, Jeong et al. lack of

network protocol comprises at least of NetBEUI, and XML. Shrinivasan et al., in

the same field of endeavor - networking devices recognition and communication,

teach a system of nodes contact information recognition using TCP/IP, HTTP,

NetBUI, and XML (¶ 23). Further, networking transfer protocol using TCP/IP,

HTTP, NetBUI, and XML is inherent in the networking art.

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to have incorporated the teaching of Shrinivasan et al. into

the disclosures by Jeong et al. to make the system to be more compatible with

different network transfer protocol environments.

Claims 24, 31, and 35 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Jeong et al. as applied to claims 17 and 26 above, and further

in view of Devine et al. (US Pub. No. 2002/009/5399).

Regarding claim 24, Jeong et al. disclose claim 17 but lack of a

predetermined hierarchy. Devine et al. further teach a network having devices

and services with a predetermined hierarchy order (¶ 345).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to incorporate the teaching of Devine et al. into the

disclosures by Jeong et al. so all nodes in a network function in a predictable

manner, at it provides a better network management.

Regarding claim 31, Jeong et al. disclose claim 17 and 26; however Jeong

et al. do not provide a hierarchy fashion. Devine et al. teach a network having

devices and services with a hierarchy order (¶ 345). It would have been obvious

to one of ordinary skill in the art at the time the invention was made to

incorporate the teaching of Devine et al. into the disclosures by Jeong et al., for a

networking queue of priority is carrying out per network management settings. It

also is easier to figure out the network bandwidth usage and timing.

Regarding claim 35, Jeong et al. disclose claim 33, but Jeong et al. lack

comprising means for determining a network condition that causes the means for

transmitting to transmit the multicast-type message in unicast more frequently

based upon worsening network conditions, and to relax the frequency of

transmission when the network resume more normal operation. Devine et al.

teach network redundancy in network services and devices (¶ 083 and 375). It

would have been obvious to one of ordinary skill in the art at the time the

invention was made to incorporate the teaching of Devine et al. into the

disclosures by Jeong et al. to avoid reconnections and network connection

overheads when any nodes get disconnected.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of

time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire

THREE MONTHS from the mailing date of this action. In the event a first reply is

filed within TWO MONTHS of the mailing date of this final action and the advisory

action is not mailed until after the end of the THREE-MONTH shortened statutory

period, then the shortened statutory period will expire on the date the advisory

action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

calculated from the mailing date of the advisory action. In no event, however, will

the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure:

Zintel et al. US Patent No. 6,725,281. Apr. 20, 2004 (Filed Nov. 2, 1999).

"Synchronization of Controlled Device State Using State Table and Eventing in

Data-Driven Remote Device Control Model."

Miller et al. US Patent No. 6,873,627. Mar. 29, 2005. "System and Method

for Sending Packets Over a Computer Network".

Any inquiry concerning this communication or earlier communications from

the examiner should be directed to TuanKhanh Phan whose telephone number is

571-270-3047. The examiner can normally be reached on Mon to Fri, 8:00am to

4:30pm EST, 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Glenton B. Burgess can be reached on 571-272-3949.

The fax phone number for the organization where this application or proceeding

is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TKP

ARIO ETIENNE

SUPERVISORY PATENT EXAMINER